**Sample Assessment Outline**

Materials Design and Technology

Preliminary Unit 3 and Unit 4

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# Sample assessment outline

# Materials Design and Technology – Preliminary

## Unit 3

| **Assessment task** | **Notional due date** | **Unit outcome:**identify and name materials and their basic properties and uses | **Unit outcome:**discuss design choices and factors affecting design choices | **Unit outcome:**apply design fundamentals and skills to develop a product | **Unit outcome:**develop and practise safe production skills tomake a product |
| --- | --- | --- | --- | --- | --- |
| **Task 1: Introduction to design fundamentals**Introduction and application of design fundamentals and factors affecting design through selected products and materialsComparing products, their uses, and understanding the nature and properties of materials of different products | Week 2 | **✓** | **✓** | **✓** |  |
| **Task 2: Material properties for different product uses**Identify the different properties or characteristics of materials, and explore why these materials are chosen for each product’s function | Week 3 | **✓** | **✓** |  | **✓** |
| **Task 3: Developing and communicating design ideas**Students use simple drawing and annotation techniques to develop a product, while making changes through design choices | Week 7 | **✓** | **✓** | **✓** |  |
| **Task 4: Manufacture the product**Practical skills and techniques are used in the manipulation of materials to produce the product, as applicable to contextSafety: correct use of personal protective equipment (PPE) where applicableProduction management as directed by the teacher | Week 15 | **✓** |  | **✓** | **✓** |
| **Task 5: Presentation of completed product**Evaluate completed product against initial designPresent completed product | Week 16 |  | **✓** |  | **✓** |

| **SAMPLE PLANNING CHECKLIST Materials Design and Technology** **Preliminary Unit 3**(✓ = Unit content covered) | **Task 1**Introduction to design fundamentals | **Task 2**Materials, differences and uses | **Task 3**Developing and communicating ideas | **Task 4**Manufacture the product | **Task 5**Presentation of product |
| --- | --- | --- | --- | --- | --- |

|  |
| --- |
| **Design fundamentals and skills** |
| Discuss: * needs and wants
* existing products
* design fundamentals
* aesthetics, function, safety, cost
* factors affecting design

Devise: * using communication techniques
* sketches of personal product ideas, with development of images to a final solution
* presentation of design choices and final design

Use guided and/or highly scaffolded design plans as the idea/plan for an eventual productEvaluate when discussing and devising design ideas | **✓** |  | **✓** |  | **✓** |
| Evaluate finished product against initial design |  |  |  |  | **✓** |
| **Nature and properties of materials** |
| Identify by appearance, and name materials within the chosen context | **✓** | **✓** |  |  |  |
| Identify basic aesthetic properties or characteristics | **✓** | **✓** |  |  |  |
| **Materials in context** |
| Identify basic uses for materials within the chosen context | **** | **✓** | **✓** |  |  |
| **Use of technology – design skills and techniques** |
| Develop basic graphic skills with simple annotation chosen from, but not limited to, the following:* coloured images cut and pasted
* 2D pencil sketches, pictorial drawings, colour or rendered drawings
* desktop publishing, ICT drawing

Use appropriate terminology and conventionsName and use basic equipment, as appropriate to context | **✓** |  | **✓** |  | **✓** |
| **Use of technology – skills and techniques – safety – production management** |
| Use appropriate terminology and conventionsName and use basic equipment, as appropriate to contextManipulate materials:* mark out parts/shapes
* cut out and/or shape parts/shapes
* join or assemble
* finish product

**Safety**Correct use of personal protective equipment (PPE) where applicable |  |  | **✓** | **✓** |  |
| **Production management**Use teacher directed design, production plans and processesWith supervision, use tools and machines safelyCommunicate and describe the production process in simple termsManage processes to finish a productDemonstrate workshop clean-up procedures |  |  |  | **✓** | **✓** |

# Sample assessment outline

# Materials Design and Technology – Preliminary

## Unit 4

| **Assessment task** | **Notional due date** | **Unit outcome:**identify and name different materials and their differentbasic properties and uses | **Unit outcome:**discuss design choices and factors affecting design choices | **Unit outcome:**apply design fundamentals and skills to develop a product | **Unit outcome:**develop and practise safe production skills tomake a product |
| --- | --- | --- | --- | --- | --- |
| **Task 6: Nature and properties of materials**Identify and name the materials by their appearanceLook at a range of different common materials and identify some of the differences of the materials’ properties | Week 2 | **✓** | **✓** | **✓** |  |
| **Task 7: Design fundamentals and skills** Explore existing products, within context based on needs and wants. Personal likes and preferences based on design fundamentals and factors affecting design  | Week 3 | **✓** | **✓** |  | **✓** |
| **Task 8: Methods of communicating design ideas**Students use simple drawing and annotation techniques to develop a product, making changes by design choices within the design process, to develop an individual design solution | Week 7 | **✓** | **✓** | **✓** |  |
| **Task 9: Manufacture the product**Manipulation of materials to produce the product, as applicable to contextSafety: correct use of personal protective equipment (PPE) where applicableProduction management as directed by teacher | Week 15 | **✓** |  | **✓** | **✓** |
| **Task 10: Presentation of completed product**Students present the finished product, and discuss the likes and uses of the product | Week 16 |  | **✓** |  | **✓** |

| **SAMPLE PLANNING CHECKLIST Materials Design and Technology** **Preliminary Unit 4**(✓ = Unit content covered) | **Task 6**Nature and properties of materials | **Task 7**Design fundamentalsand skills | **Task 8**Communicate design ideas | **Task 9**Manufacture the product | **Task 10**Presentation of product |
| --- | --- | --- | --- | --- | --- |

|  |
| --- |
| **Design fundamentals and skills** |
| Discuss:* design needs and wants – existing products – design fundamentals – factors affecting design
 | **✓** | **✓** | **✓** |  | **✓** |
| Devise:* using communication techniques
* sketches of personal product ideas with development of images to a final solution
* design choices based on design fundamentals
* presentation of final design

Use guided and/or highly scaffolded design plans as the idea/choice/plan for an eventual productEvaluate when discussing and devising design ideas | **✓** | **✓** |  |  |  |
| **Nature and properties of materials** |
| Identify, by appearance and name, within the chosen context: * metals – ferrous, non-ferrous
* textiles – natural fibres, manufactured fibres
* wood – softwoods, hardwoods, and different manufactured boards
 | **✓** |  |  |  |  |
| Identify basic aesthetic properties or characteristics, such as:* colour – appearance – patterned, plain
* texture – soft, hard, smooth, rough – density – heavy, light
 | **✓** | **✓** | **✓** |  |  |
| **Materials in context** |
| Identify, within a chosen context, common materials and describe their uses Name some products or objects made from common materials  | **✓** | **✓** |  |  |  |
| **Use of technology – design skills and techniques** |
| Use a guided design method to develop own solutionDevelop graphic skills, such as desktop publishing and/or hand sketching with simple annotation |  | **✓** | **✓** |  | **✓** |
| **Use of technology – skills and techniques – safety – production management** |
| Use tools and basic machineryManipulate materials by cutting, shaping, joining and finishing Use appropriate correct basic terminology and conventions**Safety**Correct use of personal protective equipment (PPE) where applicable |  |  | **✓** | **✓** |  |
| **Production management**Use simple tools and machinesUse teacher-directed design, production plans and processesCommunicate and describe the production process |  |  |  | **✓** | **✓** |
| **Design fundamentals and skills**Evaluate finished product against initial design | **✓** |  |  |  | **✓** |